

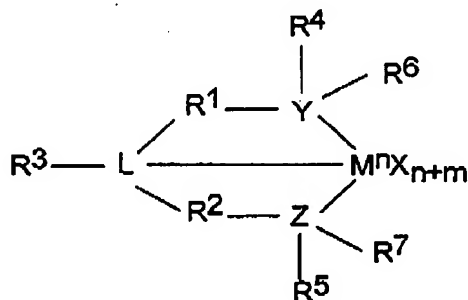
Application No.: 10/777,562
 Response dated: October 12, 2007
 Reply to Office Action July 12, 2007

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Listing of the Claims

1. (Currently Amended) A process for polymerizing olefin(s) comprising combining said olefin(s) in the presence of a catalyst system comprising a Group 15 containing [bidentate or] tridentate ligated hafnium catalyst compound, wherein the hafnium metal atom is bound to at least one leaving group and to [at least two] three Group 15 atoms, and wherein [at least one of the at least] two of the Group 15 atoms [is bound to a Group 15 or 16 atom] are each bound to the third Group 15 atom through a bridging group; and a bulky ligand metallocene catalyst compound, wherein the bulky ligand metallocene compound and the Group 15 containing tridentate ligated hafnium catalyst compound are added to a polymerization reactor in one of a slurry, a solution, an emulsion, a dispersion or a suspension, and wherein the Group 15 containing tridentate ligated hafnium catalyst compound is represented by the formula:



Formula (I)

wherein M is hafnium;

each X is independently a leaving group;

n is the oxidation state of M;

m is the formal charge of the Y, Z and L ligand;

L is a Group 15 element;

Y is a Group 15 element;

Z is a Group 15 element;

R¹ and R² are independently a linear, branched, or cyclic C₂ to C₂₀ alkyl group;

R³ is a hydrocarbon group, hydrogen, a halogen, or a heteroatom containing group;

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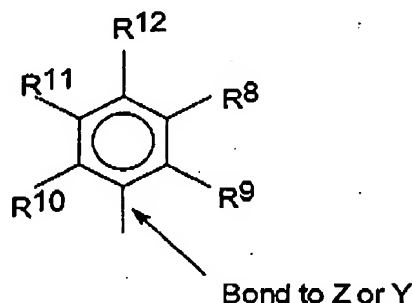
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R⁴ and R⁵ are independently an alkyl group, an aryl group, substituted aryl group, a cyclic alkyl group, a substituted cyclic alkyl group, a cyclic arylalkyl group, a substituted cyclic arylalkyl group or multiple ring system;

R¹ and R² may be interconnected to each other, and/or R⁴ and R⁵ may be interconnected to each other; and

R⁶ and R⁷ are independently absent, or hydrogen, an alkyl group, halogen, heteroatom or a hydrocarbyl group.

2. (Cancelled)
3. (Cancelled)
4. (Cancelled)
5. (Currently amended) The process of [claim 4] Claim 1, wherein R⁴ and R⁵ are represented by the formula:



wherein R⁸ to R¹² are each independently hydrogen, a C₁ to C₄₀ alkyl group, a halide, a heteroatom, a heteroatom containing group containing up to 40 carbon atoms, wherein any two R groups may form a cyclic group and/or a heterocyclic group and wherein the cyclic groups may be aromatic.

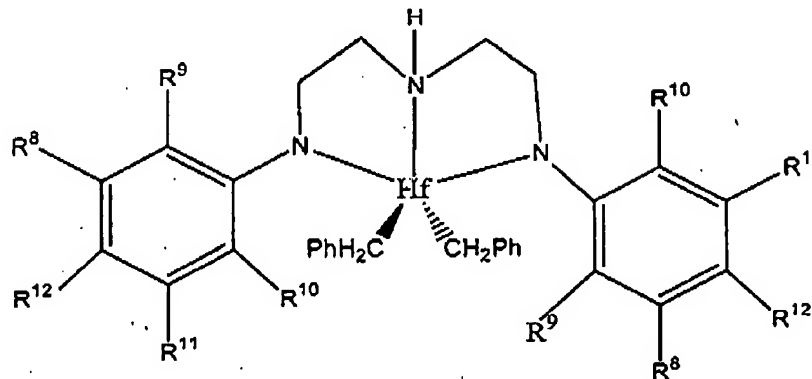
6. (Currently Amended) The process of claim 5 wherein R⁸ to R¹² [R⁹, R¹⁰ and R¹²] are independently a methyl, ethyl, propyl or butyl group.

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7. (Currently Amended) The process of claim 5 wherein R⁸ to R¹² [R⁹, R¹⁰ and R¹²] are methyl groups[, and R⁸ and R¹¹ are hydrogen].
8. (Currently Amended) The process [of claim 4] of Claim 1, wherein L, Y, and Z are nitrogen, R¹ and R² are a C₂ to C₆ hydrocarbon radical, R³ is hydrogen, and R⁶ and R⁷ are absent.
9. (Cancelled)
10. (Original) The process of claim 1 wherein the catalyst system is supported on a carrier.
11. (Original) The process of claim 1 wherein the process is a continuous gas phase process.
12. (Original) The process of claim 1 wherein the process is a continuous slurry phase process.
13. (Original) The process of claim 1 wherein the olefin(s) is ethylene.
14. (Original) The process of claim 1 wherein the olefins are ethylene and at least one other monomer having from 3 to 20 carbon atoms.
15. (Original) The process of claim 1 wherein the catalyst system further comprises an activator.
16. - 45. (Cancelled)

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46. (New) The process of Claim 1, wherein the Group 15 containing tridentate ligated hafnium catalyst compound is represented by the formula:



wherein R⁸ to R¹² are each independently a methyl, ethyl, propyl, or butyl group.